ARYAN

ARYAN SCHOOL OF ENGINEERING & TECHNOLOGY

Dicipline: Electrical Engineering	Semester: 5th	Name of the Teaching Faculty: ER. Kishore Kumar Sasmal
Subject: Digital Electronics and Microprocessor	No of Days/Week Class Allotted: 5 day	Semester From date: 15 Sep 2022 To date: No. of Weeks:

WEEK	Class Day	Theory Topics
1st week 15/9/22 to 17/9/22	15.09.22 1st Thursday	Basic of Digital Electronics :- Binary, octal, Decimal and hexadecimal number Conversion from one number to another number
	17.09.22 2nd Saturday	Binary addition, subtraction, multiplication and Division, 1's Complement and 2's Complement
	3rd	
	4th	
	5th	
2nd week 19/09/22 to 24/09/22	19/09/22 1st Monday	Subtraction of binary numbers in 2's Complement method.
	20.09.22 2nd Tuesday	Use of weighted and un-weighted code and write binary equivalent number for a number in 8421, Ex-3, Gray code and viceversa.
	21.09.22 3rd wednesday	Importance of Parity Bit.
	22.09.22 4th Thursday	Logic gate: AND, OR, NOT, NAND, NOR, EX-OR and EX-NOR gate with truth table.
	24.09.22 5th Saturday	Realize AND, OR, NOT operation using NAND, NOR gate.
3rd week 26/09/22 to 1/10/22	26.09.22 1st Monday	Different postulates and De-morgan's theorem in boolean algebra.
	27.09.22 2nd Tuesday	Use of boolean algebra for Simplification of logic expression.
	28.09.22 3rd wednesday	Karnaugh map for 2, 3 4 variable logical expression.
	29.09.22 4th Thursday	Simplification of SOP logic expression using Karnaugh map.
	1.10.22 5th Saturday	Simplification of POS logic expression using Karnaugh map.

WEEK	Class	Theory Topics
4th week 10/10/22 to 15/10/22	10.10.22 Monday	Combination logic Circuit: Give the Concept of Combinational logic Circuits
	11.10.22 Tuesday	verify the half adder Circuit and verify it's functionality using truth table.
	12.10.22 Wednesday	Realize half adder using NAND gate only.
	13.10.22 Thursday	Realize half adder using NOR gate only.
	15.10.22 Saturday	Explain full adder Circuit and it's operation with truth table.
5th week 17/10/22 to 22/10/22	17.10.22 Monday	Realize full-adder using two Half-adder and it's truth table.
	18.10.22 Tuesday	Realize full adder using OR gate and write it's truth table.
	19.10.22 Wednesday	Explain full Subtractor Circuit and it's operation with truth table.
	20.10.22 Thursday	Operation of 4X1 multiplexers and it's truth table.
	22.10.22 Saturday	operation of 1X4 Demultiplexers and it's truth table.
	24.10.22 Monday	working of Binary to Decimal Encoders and it's truth table.
		Due to Diwali
	26.10.22 Wednesday	working of 3X8 Decoder Circuit and two bit magnitude Comparator Circuit.
	27.10.22 Thursday	Realize hisher order mux into lower order mux and it's truth table.
	29.10.22 Saturday	Realize hisher order DEMUX into lower order DEMUX and it's truth table.

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WEEK	Class Day	Theory Topics
7th week 31/10/22 to 5/11/22	31.10.22 1st Monday	Sequential logic Circuits: Give the idea of sequential logic circuit.
	1.11.22 2nd Tuesday	State and necessity of clock and give the concept of level clocking and edge triggering.
	2.11.22 3rd wednesday	Clocked SR flip flop with Preset and Clear inputs.
	3.11.22 4th Thursday	Construction level clocked J-K flipflop using S-R flipflop and explain it's truth table.
	5.11.22 5th Saturday	Study of master Slave J-K flipflop and it's race arround condition.
8th week 7/11/22 to 12/11/22	7.11.22 1st Monday	Give the truth tables of edge triggered D and T flip flops and draw their Symbols.
	8.11.22 2nd Tuesday	Application of flip flops.
	9.11.22 3rd wednesday	Define modulus of a counter.
	10.11.22 4th Thursday	4-bit asynchronous counter and it's timing diagram.
	12.11.22 5th Saturday	Asynchronous decade counter.
9th week 14/11/22 to 19/11/22	14.11.22 1st Monday	4-bit Synchronous counter.
	15.11.22 2nd Tuesday	Differentiate between synchronous counter and asynchronous counter.
	16.11.22 3rd wednesday	State the need for a register and list out the four types of registers
	17.11.22 4th Thursday	working of SISO, SIPO register with truth table using flip flop.
	19.11.22 5th Saturday	working of PISO, PIPO register with truth table using flip flop.

WEEK	Class Day	Theory Topics
10th week 21/11/22 to 26/11/22	21.11.22 1st Monday	8085 Microprocessor :- Introduction to microprocessors.
	22.11.22 2nd Tuesday	Introduction to microcontroller.
	23.11.22 3rd wednesday	Architecture of intel 8085A microprocessor and description of each block.
	24.11.22 4th Thursday	8085 Pin diagram and it's description.
	26.11.22 5th Saturday	Define Stack, Stack pointer and Stack top.
11th week 28/11/22 to 3/12/22	28.11.22 1st Monday	Interrupts in 8085.
	29.11.22 2nd Tuesday	Opcode and operand in 8085
	30.11.22 3rd wednesday	Differentiate between one byte, two byte and three byte instruction with examples.
	1.12.22 4th Thursday	Instruction set of 8085 - example.
	3.12.22 5th Saturday	Addressing mode of 8085.
12th week 5/12/22 to 10/12/22	5.12.22 1st monday	Fetch cycle and machine cycle of 8085
	6.12.22 2nd Tuesday	instruction cycle and T-state of 8085.
	7.12.22 3rd wednesday	Timing diagram for memory read.
	8.12.22 4th Thursday	Timing diagram for memory write.
	10.12.22 5th Saturday	Timing diagram for I/O read.

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WEEK	Class Day	Theory Topics
	12.12.22 1st Monday	Timing diagram for I/O write.
	13.12.22 2nd Tuesday	Timing diagram for 8085 instruction.
13th week 12/12/22 to 17/12/22	14.12.22 3rd Wednesday	Counter and time delay.
	15.12.22 4th Thursday	Simple assembly language Programming of 8085.
	17.12.22 5th Saturday	Differentiate between microprocessor and microcontroller.
	19.12.22 1st Monday	Interfacing and support chips :- basic interfacing Concept.
	20.12.22 2nd Tuesday	Memory mapping.
14th week 19/12/22 to 24/12/22	21.12.22 3rd Wednesday	I/O mapping.
	22.12.22 4th Thursday	Functional block diagram and description of each block of Programmable Peripheral interface.
	5th Saturday	Application of 8255.
	1st Monday	Seven Segment LED display.
	2nd Tuesday	Square wave generator.
15th week	3rd Wednesday	Traffic light Controller.
	4th Thursday	class test-1
	5th Saturday	class test-2